Male smokers' experiences of an appearance-focused facial-ageing intervention

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Abstract

This study investigated thirty male smokers' experiences of an appearance-focused, facial-ageing intervention. Individual interviews (n = 21) and three focus groups (n = 9) were conducted. Transcripts were analysed using thematic analysis. Male smokers explained that viewing the impacts of smoking on their own face was the most effective part of the intervention and 22 men (73%) said that they intended quitting smoking or reducing number of cigarettes smoked post-intervention. It is recommended that designers of appearance-focused interventions target men in the future as the current findings demonstrated that the majority of men engaged well with the intervention.

Key Words: Smoking; Men; Appearance; Facial-ageing; Intervention.

Smoking accounts for approximately six million deaths worldwide each year and is considered an epidemic level public health threat (World Health Organisation [WHO], 2014). Despite a steady decline in prevalence since 1970, in some countries such as the USA and the UK, smoking remains a major cause of death and illness (WHO, 2014). A current international public health priority is to reduce smoking rates in young people aged between 18-34 years due to the high prevalence within this age range (Action on Smoking and Health [ASH], 2014; WHO, 2014). Furthermore, recent trends suggest there has been an increase in smoking rates among young people in the USA and UK (ASH, 2014; National Cancer Institute, 2010). In order to reduce smoking prevalence in young people urgent intervention is required.

Although it is important to educate individuals about the detrimental health consequences of smoking, recent literature suggests interventions which concentrate on the health consequences may have limited impact on motivating young people to quit smoking (Droomers et al., 2004; Grogan and Masterson, 2012). Those who smoke may experience habituation after viewing anti-smoking health-related information on a regular basis (van 't Riet and Ruiter, 2013). It is also suggested that smokers adopt defensive reactions and social cognition errors to reduce feeling personally vulnerable or at risk of health-related smoking impacts (Milam et al., 2000; Sindelar and O'Malley, 2014). For instance, younger people may justify their current smoking behaviour due to the perception that they will quit before they become at risk (Grogan et al., 2010). It is therefore recommended that anti-smoking campaigns should not solely focus on communicating the detrimental health impacts of smoking when targeting young people. To reduce smoking in this target age range new ways of increasing smokers' feelings of personal vulnerability from the impact of smoking are required.

Protection Motivation Theory suggests that behaviour change is more likely when an individual feels personally vulnerable or at risk of a health threat (Rippetoe and Rogers, 1987). One particular method that may increase young people's perceptions of personal vulnerability to negative impacts is to show them how smoking could affect their appearance (Grogan et al., 2009; Grogan et al., 2010). According to Grogan (2012) appearance interventions demonstrate promising results which may be linked to the fact that young people subscribe to values and norms about maintaining a healthy and attractive body image. Appearance-focused studies have investigated the effectiveness of personalised age-progression, facial-wrinkling interventions (Flett et al., 2013). These types of interventions demonstrate how smoking can affect the skin in the proximal and distal future in terms of increased facial wrinkling, which may enable young people to visualise how smoking could affect their appearance in the long term (Hall and Fong, 2007).

A recent systematic review suggests that smokers' who experience facial wrinkling interventions report more positive perceptions and increased intentions to quit smoking (Flett et al., 2013). Previous studies have tended to use theory of planned behaviour (TPB) questionnaire measures to assess intervention effectiveness, reporting promising findings (Ajzen, 1991; Flett et al., 2013; Grogan et al., 2011). TPB measures tend to focus on four constructs to measure a person's likelihood of engaging in a behavior including: attitudes, intentions, subjective norms and perceived behavioural control (Ajzen, 1991). Limitations of the studies in the systematic review include lack of information on how TPB outcomes were measured indicating possible reliability and validity issues. The systematic review highlights there is currently a lack of qualitative work to understand the underlying reasons why smokers may find appearance-focused interventions effective (Flett et al., 2013; Gough et al., 2009). To date, only one qualitative study has been identified which involved investigating the experiences of smokers (Grogan et al., 2010). Grogan et al. (2010) conducted the research

with young women smokers and found that they were highly motivated to quit after viewing their personalised aged images, the key point being that the women were able to view the impacts of smoking on their *own* faces. A further limitation is that the majority of studies using age-progression interventions focus on women (Flett et al., 2013). It tends to be assumed that women may find appearance interventions more effective compared to men due to greater cultural pressures on women to be attractive and to look young and wrinkle free (Grogan and Masterson, 2012). However, recent research suggests that many men may be concerned about looking attractive and may also be concerned about facial wrinkling (Grogan et al, 2009), possibly due to increased cultural pressure on men to look fresh faced and wrinkle free (Gough et al., 2014; Grogan, 2008). Although recent work has shown that some men may be concerned about facial wrinkling in the context of a facial tanning intervention (Williams et al., 2013), to date, no qualitative research has been published that has investigated how male smokers experience a facial-wrinkling age-progression intervention. Thus, it remains unclear how male smokers experience these types of interventions and whether appearance-related smoking campaigns should be targeting men as well as women.

The present study expands on previous work by examining how young male smokers experience an appearance-related facial wrinkling intervention, to inform developers of anti-smoking campaigns.

Method

The Intervention

April (April Inc, 2014) age-progression software is a sophisticated computer programme which can be installed on a computer or laptop. The software shows individuals how they are likely to age in the future if they continue to smoke or quit smoking (Grogan et al., 2010). Morphing is based on over 2000 photographs of smokers and non-smokers and physiological smoking dermatology data (Grogan et al., 2010; Hysert et al., 2003) enabling smokers to

view their faces ageing as a non-smoker compared to a one-pack a day smoker. Images are aged progressively from an individual's current age to a maximum age of 72 years.

The Interviewers

A 28-year-old woman (first author) who is a non-smoker conducted 18 of the interviews and all three focus groups. A 23-year-old male undergraduate psychology student who is also a non-smoker conducted three of the interviews (after receiving training).

Participants

In order to be eligible for the study, men had to be regular smokers and aged between 18-34 years. All were students at [blinded for review] University. University students were recruited in terms of accessibility and due to being in the specified age–range. Recruitment of participants was conducted by the first author, using methods including through sending an e-mail to all male students studying part or full time at [blinded for review] University, placing posters on University notice boards and in residence halls, and actively approaching students in open spaces (e.g. outside buildings) on University premises. Fourteen men were recruited via e-mails, three via posters, and thirteen via actively approaching individuals. Participants were given the option to take part in either an interview or focus group to maximize recruitment and to enhance data richness of combining both data collection methods (Lambert and Loiselle, 2008). In total 30 male smokers were recruited to the study with 21 opting for individual interviews and nine in three focus groups (three male participants in each focus group). The student sample came from a range of disciplines including computing, forensic science and psychology, and in terms of ethnicity all were white. The sample mean age was 22.90 years with a standard deviation of 3.62, and the range was 18-33 years. All participants identified as smokers.

Materials

We used the April age-progression software (Version 2.6; April Inc., 2014) installed on a laptop computer with a built in camera and an audio-recorder. A semi-structured interview guide with open-ended questions was developed based on previous work (Grogan et al., 2010). Men were asked about their general experience of taking part, whether or not they thought the intervention was effective and any recommendations for improving the intervention. Examples of questions include: 'what did you think about the intervention?' and 'How did you feel immediately afterwards?' Basic demographic information was recorded including age, ethnicity and current smoking status.

Procedure

Ethical approval was granted for this study through [blinded for review] University Ethics Committee. Data were collected between May-December 2013. The first author/interviewer arranged for all the intervention sessions to be conducted in a quiet room on University premises. Before taking part in the intervention the interviewers discussed anonymity, allowed time for participants to ask any questions and ensured there was a good level of rapport. Participants read an information sheet and completed a consent form, which the interviewer also signed. The interviewers informed participants that the intervention session was aimed at understanding how male smokers experience this type of intervention.

Firstly a photograph of the participant was taken and uploaded to the age-progression software. The recording device was turned on directly after uploading the image to the software in order to gain information on the participant's initial thoughts and reactions. A number of software process steps were completed resulting in two images being displayed on the computer screen. Before pressing 'play' to demonstrate the ageing process, the interviewer informed participants that the image on the left hand side of the screen would age as a non-smoker and the image on the right hand side of the screen would age as a one-pack a

day smoker. The participants then viewed their images ageing on the computer screen as a non-smoker compared to a smoker from their current age to the maximum age of 72 years old. In the focus group sessions participants firstly took part in the age–progression intervention individually and then joined as a group at the end to discuss their experiences. A semi-structured interview guide was used to examine how the male smokers experienced the intervention. The interviews and focus groups ranged between 12 and 52 minutes (Mean = 24.05 minutes and standard deviation = 9.32). After the intervention/interview sessions, participants were thanked for taking part and any questions were handled with care and contact details for the first author were provided.

Data Analysis

All data were transcribed and subjected to an inductive thematic analysis, chosen to allow a rich and detailed interpretation of accounts (Braun and Clarke, 2006). The first author transcribed all the recordings and the analysis process began at this stage in terms of becoming familiar with the data. Whilst transcribing, the first author noted initial ideas, possible emerging themes and patterns. After transcription was completed, the transcripts were printed and the first author completed line-by-line open coding involving searching for themes and patterns inductively. Through constant comparison, and by referring continuously to the transcripts, a list of key and sub themes were confirmed. Once completed, that there was sufficient evidence to support the identified key and sub themes, the first author sent the analysis to author two and four for feedback. Once the feedback was received the analysis was revised, further verified and finalised. A final model (Figure 1) was validated by the three authors.

Results

The model (Figure 1) shows the core theme and inter-linking key themes. The core theme 'personal relevance' was chosen as it was central to accounts and linked all the key themes presented.

Insert Figure 1 about here

Particular quotations in this section have been chosen to illustrate the core theme and additional themes. After each quote below, we have indicated participants' pseudonyms chosen by the researcher (used to preserve anonymity), whether the quote was from a focus group (FG 1, 2 or 3) or interview (I), and line numbers in transcripts. Round brackets within quotes are used to indicate pauses in seconds. Square brackets indicate additional contextual information.

Personal relevance

The core theme was 'Personal Relevance'. The majority of the participants explained that it was viewing their own facial image being aged rather than a generalised example that made the intervention particularly effective. For instance:

> 'I think people just need to see it for themselves really (1) It's alright a Doctor telling you that this is going to happen but everybody, even myself who is doing Biology, you still seem to brush it off and think it won't happen to me but when you see it for yourself it's a whole different pebble' (Jake, age 24 years, L181-184, I);
>
> 'And not only that it's personal as well it's me on that screen (2) you know it's me on that screen I'm looking at how I'm going to age in years to come (2) you know it's not somebody else' (Keith, age 25 years, L317-319, I).

Other anti-smoking interventions and advertisements were discussed, with many participants referring to them as not personally relevant:

> ‘Cigarette packets these days come with all the lung images on but you never actually see your own lungs so (1) it doesn’t really affect you, you know cool I’m never going to see so does it really matter to me’ (Liam, age 22 years, L164-167, I).

Many of the men (n = 9) said that they were accustomed to health warnings about smoking disseminated via media avenues and that habituation may occur when these were seen repeatedly and became ineffective because of repeat viewing:

> ‘I don’t think the health ads [advertisements] really help you want to quit (1) you get used to them don’t you? (1)’ (Mark, age 22 years, L160-162, I).

Some men explained that they already knew smoking was bad for them, but had found that viewing images of their own face made them more aware that smoking could impact them personally in the future. For instance:

> ‘I do know that smoking is bad for you and everything (1) but like when you see it in person when you see it happen to you with those pictures it’s quite scary’ (Jason, age 22 years, L87-88, I).

Shock reaction

One of the interlinking key themes to personal relevance included ‘shock reaction’. Seventeen of the participants reacted to viewing their aged images with shock:

> ‘It’s quite shocking to see’ (Peter, age 20 years, L212-213, FG3);
>
> ‘I think a lot of people would be amazed (2) to me it’s just shocking (2) the shock of it all personally’ (Will, age 33 years, L160-161, I).

Some described the experience of viewing their aged images as scary and strange. Descriptions were used of feelings associated with viewing the images such as: ‘terrifying’; ‘horrifying’; and ‘amazed’. Viewing the ageing process was considered a novelty in addition to observing differences between the smoker and non-smoker image:

> ‘No it’s quite scary looking at yourself old as well first of all, first and foremost, but you can see the skin as well you know the colour changes that it has an effect’ (Keith, age 25 years, L111-112, I).

Six of the participants reported that they did not know or had not thought about how smoking affected the skin and this was linked to reactions of shock:

> ‘Alarming actually when you look at that I never really thought about how it would affect and age my skin’ (Sven, age 18 years, L144-145, I).

Visual impact

The visual impact of the intervention was commented on. For instance, the participants explained that by seeing themselves they were now able to visualise how smoking could impact their own skin and that they felt more at risk of smoking impacts:

> ‘I think this shows you the true reality of what you could be (1) speaking about it just trying to use your imagination is not the same is it, it’s looking at the true reality of what it could actually be’ (Will, age 33 years, L183-185, I).

Participants also commented on the novelty of the software, for instance how the intervention allowed them to do something that would not be possible without technology:

> ‘Because you know without this sort of software you would never know, it’s impossible to see what you’d look like in the future’ (George, age 19 years, L269-270, I).

It was also suggested that others who were exposed to the intervention would find it effective:

> ‘I just think it would really get people thinking seeing yourself in the future um a lot of people would love to have a time machine and go into the future and see what they’re going to you know become’ (Charles, age 24 years, L228-230, I).

Concern about others' perceptions

Male smokers expressed concern about what other people would think of them as the aged smoker. Some participants explained that they would probably find it hard to attract a partner:

> 'If I don't make enough money I'll die alone' [laughter] (Jason, age 22 years, L59, I).

Concern about what significant others would think of their aged smoking image was expressed:

> 'If my girlfriend saw this [laughter] she'd be making me quit' (Mark, age 22 years, L110, I).

It was suggested that the intervention would be particularly effective for those that had children or a significant other to think about:

> **'Lewis:** Maybe getting people that are slightly more towards (1) their 30's maybe people with children as well. **I:** yeah? **Lewis:** cause (2) hmm you'll obviously look at that and think "wow by the time I'm 50 I don't want to look like I'm 70, I don't want my kids to see me like that" (1) so I think it's more important if you've got someone else to think about' (Lewis, age 23 years, L246-249, I).

Concern about skin ageing and wrinkling

When analysing the data two distinctive groups became apparent: those who were concerned (n = 22); and those who were not concerned (n = 8) about how they looked in their aged images.

'Concerned'

Individuals who expressed concern tended to comment on the differences between the smoker and non-smoker image in terms of appearance:

> 'You can see by 45 the cheeks have started sagging, there's wrinkles around the mouth, it's horrible' (Jake, age 24 years, L85-8, I).

Those that viewed a difference between the images reacted with shock, linking to the theme 'shock reaction'. For instance:

> 'Shocking (3) shocking there's a huge difference between the smoker and non-smoker (3) wow' (Chris, age 21 years, L118-119, I).

Some participants used similes or adjectives to describe their images such as: 'ghoul'; 'zombie'; and 'ghastly'. Concern was expressed about the impact of smoking on the skin including facial wrinkling:

> 'But I've got loads of wrinkles coming in and you don't want them' (Tobias, age 19 years, L184, I);

'Not concerned'

A sub-group of men did not display much about viewing their aged images, with some stating that they were 'too young' to contemplate ageing effects:

> 'I'm too young of a smoker to have yet considered that sort of thing' (Adam, age 33 years, L238-239, I).

Particular participants spoke about exceptions to the ageing process such as having good genetics, for instance:

> 'My Great Grandma turned 90 today and yeah she looks about 70, so I've got good genes do you know what I mean that votes well and she smoked for like 30 years do you know what I mean like heavily but she did quit' (Matthew, age 21 years, L277-280, I).

Interestingly it was suggested by participants in both groups (those who expressed concern and those who did not) that the intervention would be most effective for women (n = 11) or individuals that were 'vain' (n = 8). For instance:

‘Thinking about it (2) it may be more effective for girls as they are into their creams and not wanting to age (1) botox and the rest of it [laughter]’ (Mark, age 22 years, L122-123, I);

‘I think maybe females because you know what females are like with looks’ (Michael, age 20 years, L232, FG2);

‘I reckon (3) like if you look at you know if you get a vain person that will be really conscious about their appearance I reckon it would have more of an effect on them than on people that are more (2) less conscious about their appearance’ (Kaiden, age 18 years, L122-124, I).

Appearance attitudes

Although the majority of participants expressed concern about their aged images, most (n = 16) argued that they were not overly concerned about appearance in general:

‘I’ve never been kind of self-conscious of image and things like that it’s not something that’s bothered me that much’ (Robert, age 20 years, L101-102, I).

Some participants suggested that it was acceptable to dedicate time to look presentable for work related reasons or to attract a partner:

‘I wouldn’t say I’m an extremely vain person but I like to make myself look to a decent standard especially when I’m going to professional life’ (Jake, age 24 years, L148-150)’;

‘Only in the sense that (3) in that you’re required to (1) that sort of required level of aesthetic appearance to attract anyone so’ (Ethan, age 18 years, L371-372, FG1).

When discussing the age-progression facial-wrinkling intervention some of the men (n = 7) explained that the health consequences of smoking were relatively more important to them rather than how they would look:

'There's other stuff I can think of that makes me think about quitting smoking like my actual health' (David, age 19 years, L268-269, FG1).

After viewing the appearance-related intervention some men (n = 9) suggested that they were now thinking about how smoking could be impacting their internal physical health. For instance:

'And then obviously you're looking at the skin and the way the skin is reflecting on the outside and you think well what's it doing on the inside as well (1) it could be quite bad by then couldn't it' (Charles, age 24 years, L142-144, I);

'**Peter:** it almost shows what's happening on the inside (1) reflected on the outside if you know what I mean? **I:** hmm? **Peter:** Yeah sort of makes you think what's going on with your lungs then? **Ali:** yeah if that's what's going on with your skin' (Peter, age 20 years and Ali, age 23 years, L275-279, FG3).

Behavioural intentions

After taking part in the intervention the majority of male participants reported positive intentions (n = 22) towards quitting smoking. Intentions to quit were reported linked to concern about facial wrinkling impacts:

'It definitely makes me want to quit smoking because that's horrific, I do not want to look like that and I know that sounds vain but it's dreadful there's no need to make myself age any faster than I have to' (Jake, age 24 years, L90-92, I).

Participants reported that the intervention made them "think twice" about smoking impacts:

'When I go to start smoking when I go out of this room (1) I will think twice' (Daniel, age 25 years, L56-57, I).

Some participants (n = 6) explained that the intervention would not necessarily make them quit but that they would contemplate reducing the amount of cigarettes that they smoked:

'It definitely won't make me stop today (2) as I need to stop when I have less on (1) but it does make me think to reduce' (Ali, age 23 years, L271-272, FG3).

Of those reporting positive intentions towards quitting smoking some (n = 10) also discussed reasons to continue to smoke. For instance, a number of participants explained that they did not smoke much compared to others and that they engaged in healthy behaviours that would 'override or balance out' the negative smoking behaviour:

'So I watch what I eat and I do exercise and stuff like that so with that I do tend to balance it you know (1) and it's not like I smoke one pack a day or something (3)' (Jason, age 22 years, L191-193, I).

A key theme included participants believing that they did not smoke much compared to other smokers. It was suggested that the intervention would be more effective for heavier smokers:

'I don't smoke that much only 3 or 4 a day' (Colin, age 22 years, L96, FG2);

'I think it would be most effective for heavier smokers definitely' (Sam, age 21 years, L207).

A sub-group of participants (N=5) reported no intentions to change their smoking behaviour and explained that pressure did not encourage them to contemplate quitting:

'You've just got to do it your own way (1) I don't think pressure makes anyone do anything faster or better' (Charles, age 24 years, L510-511, I).

Discussion

Summary of Results

Findings from the present study suggest that appearance-based interventions may play an important part in increasing perceptions of vulnerability of smoking impacts among young men. The core theme 'personal relevance' was central to the men's experience of the intervention, linking to all the other identified key themes (Figure 1). The majority of participants explained that the intervention was effective due to being self relevant and

personal. This particular finding relates to previous health risk research that suggests personalised interventions elicit a greater emotive response compared to generic, standardised approaches (Hollands and Marteau, 2013). When initially viewing their aged images, and comparing non-smoker and smoker images, many of the men expressed shock, producing an increased realisation of how smoking can affect their skin. A number of participants were concerned about what significant others might think if they saw their aged images. Social relationships have been shown to influence an individual's likelihood of engaging in a health risk or promoting behaviour (Fry et al., 2009; Gough et al., 2009); therefore perceived negative social reactions may act as a significant disincentive for smoking.

Two distinctive groups were identified comprising those who expressed concern about ageing and those who did not. Concerned individuals (22 men; 73%) reported shocked reactions and worries about how smoking can accelerate facial ageing, supporting existing body image research that men do have concerns about their appearance (Grogan et al., 2009). Individuals who did not express concern (8 men; 27%) explained that they were too young to contemplate ageing impacts; and others described having good genetics which enabled them not to worry about how they would age. Similar rationalised accounts have been shown in previous research (Gough et al., 2009). Members of both groups suggested that the intervention may be more effective for women and individuals who were "vain". Despite many expressing concern about the aged images, approximately half of the sample (16 men; 53%) said that they were not overly concerned about how they looked in general. As concern about appearance has been conventionally associated with femininity some of the men may have found it difficult to express concerns (Grogan et al., 2009; Hargreaves and Tiggemann, 2006). Some male smokers explained that health was more important to them than physical appearance. An interesting association made by some was thinking about their internal health

after viewing the effects smoking had on their skin, suggesting that focusing on appearance had enabled these men to consider internal physical health as well.

After taking part in the intervention around three quarters of the sample (22 men; 73%) reported positive intentions to change behaviour including contemplating quitting or reducing amount of cigarettes smoked. Of those participants who reported positive intentions to change their behavior, 18 men expressed concern about their aged images and 3 did not express concern. A sub group of 6 participants (20% of the total sample) reported no behavioural intentions to quit smoking. There was some ambivalence in accounts with 14 individuals reporting positive intentions to change behaviour as well as justifications to continue smoking. Justifications for continuing to smoke included participants perceiving themselves as generally healthy otherwise and not smoking much, supporting Gough et al., (2009).

Links with Previous Work

Some themes that emerged from this study are consistent with studies with women smokers such as work by Grogan et al. (2010) where women smokers also reported shock reactions to viewing their aged images, were concerned about significant others' reactions, and linked effectiveness to the fact that the intervention was personally relevant. However, in the Grogan et al. (2010) study there was no sub-group of female smokers who were unconcerned about their aged images and none discussed being concerned more about their health compared to appearance as some of the men did. Differences in accounts may indicate that some men were more comfortable discussing health concerns in contrast to appearance, which may be seen as a more masculine- appropriate account (Gough et al., 2014; Grogan et al., 2009; Hargreaves and Tiggemann, 2006) and/or that these men were less concerned about appearance than Grogan et al.'s (2010) female participants, possibly because of the relatively lower societal priority given to being wrinkle free for men than women (Grogan, 2012). Findings extend

beyond existing studies that have assessed outcomes using theory of planned behaviour assessments (Flett et al., 2013; Grogan et al. 2011), providing some suggestions for mechanisms that may influence positive behavioural intentions towards quitting smoking following the intervention.

Implications for Smoking Cessation

Based on our findings, we make three recommendations. Firstly, interventions using physical appearance should target men as well as women as the majority of men found the intervention effective, with 22 men reporting increased behavioural intentions to quit after the intervention, when only one man had intended to quit prior to the intervention. Secondly, smoking cessation services and promotional campaigns should take into consideration the potential effectiveness of utilising personalised interventions to encourage behavioural change among young smokers. Finally, future anti-smoking health promotion should not solely focus on the detrimental health consequences of smoking, but rather target other areas that individuals value, including their physical appearance, so long as those who administer facial-wrinkling age-progression interventions are fully trained and uphold professional standards and ethical procedures to avoid any negative impacts associated with viewing aged images.

Limitations

As the participants were students recruited from a single UK University, caution must be taken in generalising findings. Furthermore, as participants volunteered to take part in the research their characteristics may differ from those that did not respond to our recruitment methods. In the original study design the authors hoped to investigate whether there were any differences in accounts dependent on whether the interviewer was male or female. However, as the male interviewer only conducted three of the interviews this could not be investigated in any meaningful way.

Future Research Directions

Future research could focus on non-university samples, different age ranges (e.g. adolescents) and smokers of different ethnicities to investigate who may find these types of interventions most effective. Also, impact of interviewer characteristics on participant engagement could be investigated further. Future research designs could incorporate a long term follow up interview to explore retrospective accounts and whether or not quitting smoking is reported. It would also be interesting to investigate the intervention combined with existing smoking-cessation programmes such as combining the intervention with self- affirmation techniques to encourage individuals to use threat information to change behaviour rather than dismiss the threat (Sweeney and Moyer, 2014).

Conclusions

The findings of this study hold important implications for designers of anti-smoking, physical-appearance interventions when considering whether men as well as women should be targeted. However it is important to note that appearance-focused interventions may not be motivational for all men, and barriers for intervention effectiveness exist. It is recommended that additional research is conducted to understand further how individuals engage with appearance focused facial-wrinkling interventions, and how best to incorporate these types of interventions within a health promotion context.

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Figure 1. The core category and inter-linking themes that emerged from the individual interviews and focus groups.